This Page Is Inserted by IFW Operations and is not a part of the Official Record

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

As rescanning documents will not correct images, please do not report the images to the Image Problems Mailbox.

```
Welcome to STN International! Enter x:X
LOGINID: ssspta1626amd
PASSWORD:
TERMINAL (ENTER 1, 2, 3, OR ?):2
* * * * * * * * *
                     Welcome to STN International
NEWS 1
                 Web Page URLs for STN Seminar Schedule - N. America
NEWS 2 Apr 08
                 "Ask CAS" for self-help around the clock
NEWS 3 Jun 03 New e-mail delivery for search results now available
NEWS 4
                 PHARMAMarketLetter(PHARMAML) - new on STN
         Aug 08
NEWS 5
                 Aquatic Toxicity Information Retrieval (AQUIRE)
         Aug 19
                 now available on STN
NEWS 6
         Aug 26
                 Sequence searching in REGISTRY enhanced
NEWS
      7
         Sep 03
                 JAPIO has been reloaded and enhanced
         Sep 16 Experimental properties added to the REGISTRY file
NEWS 8
NEWS 9 Sep 16 CA Section Thesaurus available in CAPLUS and CA
NEWS 10 Oct 01 CASREACT Enriched with Reactions from 1907 to 1985
NEWS 11 Oct 24 BEILSTEIN adds new search fields
NEWS 12 Oct 24 Nutraceuticals International (NUTRACEUT) now available on
STN
NEWS 13 Nov 18 DKILIT has been renamed APOLLIT
NEWS 14 Nov 25 More calculated properties added to REGISTRY
NEWS 15 Dec 04 CSA files on STN
NEWS 16 Dec 17 PCTFULL now covers WP/PCT Applications from 1978 to date
NEWS 17 Dec 17 TOXCENTER enhanced with additional content
NEWS 18
         Dec 17 Adis Clinical Trials Insight now available on STN
NEWS 19
         Jan 29
                 Simultaneous left and right truncation added to COMPENDEX,
                 ENERGY, INSPEC
                 CANCERLIT is no longer being updated
NEWS 20 Feb 13
NEWS 21 Feb 24 METADEX enhancements
NEWS 22 Feb 24 PCTGEN now available on STN
NEWS 23 Feb 24 TEMA now available on STN
NEWS 24 Feb 26 NTIS now allows simultaneous left and right truncation
NEWS 25 Feb 26 PCTFULL now contains images
NEWS 26 Mar 04 SDI PACKAGE for monthly delivery of multifile SDI results
NEWS 27 Mar 19 APOLLIT offering free connect time in April 2003
NEWS 28 Mar 20 EVENTLINE will be removed from STN
NEWS 29 Mar 24 PATDPAFULL now available on STN
NEWS 30 Mar 24 Additional information for trade-named substances without
                 structures available in REGISTRY
NEWS 31 Mar 24 Indexing from 1957 to 1966 added to records in CA/CAPLUS
NEWS 32 Apr 11
                 Display formats in DGENE enhanced
NEWS 33 Apr 14 MEDLINE Reload
NEWS EXPRESS April 4 CURRENT WINDOWS VERSION IS V6.01a, CURRENT
              MACINTOSH VERSION IS V6.0b(ENG) AND V6.0Jb(JP),
              AND CURRENT DISCOVER FILE IS DATED 01 APRIL 2003
NEWS HOURS
              STN Operating Hours Plus Help Desk Availability
NEWS INTER
              General Internet Information
```

NEWS LOGIN Welcome Banner and News Items

NEWS PHONE Direct Dial and Telecommunication Network Access to STN

NEWS WWW CAS World Wide Web Site (general information)

Enter NEWS followed by the item number or name to see news on that specific topic.

All use of STN is subject to the provisions of the STN Customer agreement. Please note that this agreement limits use to scientific research. Use for software development or design or implementation of commercial gateways or other similar uses is prohibited and may result in loss of user privileges and other penalties.

FILE 'HOME' ENTERED AT 14:41:52 ON 14 APR 2003

=> fil reg
COST IN U.S. DOLLARS

SINCE FILE TOTAL ENTRY SESSION 0.21 0.21

FULL ESTIMATED COST

FILE 'REGISTRY' ENTERED AT 14:41:59 ON 14 APR 2003 USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT. PLEASE SEE "HELP USAGETERMS" FOR DETAILS. COPYRIGHT (C) 2003 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 13 APR 2003 HIGHEST RN 502841-39-6 DICTIONARY FILE UPDATES: 13 APR 2003 HIGHEST RN 502841-39-6

TSCA INFORMATION NOW CURRENT THROUGH MAY 20, 2002

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP PROPERTIES for more information. See STNote 27, Searching Properties in the CAS Registry File, for complete details: http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

=> Uploading 09866926.str

L1 STRUCTURE UPLOADED

Uploading 098669261.str

L2 STRUCTURE UPLOADED

=> d 11

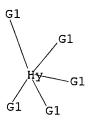
=>

L1 HAS NO ANSWERS

STR

L1





G1 H, X, Ak, [@1]

Structure attributes must be viewed using STN Express query preparation.

=> d 12

L2 HAS NO ANSWERS

L2 STR



Structure attributes must be viewed using STN Express query preparation.

=> s 11 and 12

SAMPLE SEARCH INITIATED 14:42:44 FILE 'REGISTRY' SAMPLE SCREEN SEARCH COMPLETED - 3096 TO ITERATE

32.3% PROCESSED 1000 ITERATIONS

INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)

SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**

BATCH **COMPLETE**

PROJECTED ITERATIONS: 58584 TO 65256

286 TO 952

PROJECTED ANSWERS:

200 10

L3 10 SEA SSS SAM L1 AND L2

=> s 11 and 12 ful

FULL SEARCH INITIATED 14:42:49 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 60714 TO ITERATE

100.0% PROCESSED 60714 ITERATIONS

SEARCH TIME: 00.00.01

667 ANSWERS

10 ANSWERS

=> s l4 and caplus/lc 27419509 CAPLUS/LC L5 639 L4 AND CAPLUS/LC

=> d 14 1-5

```
L4 ANSWER 1 OF 667 REGISTRY COPYRIGHT 2003 ACS RN 501926-28-9 REGISTRY CN 1H-Indidazolium, 1-methyl-3-(2-pyridinylmethyl)-, hexafluorophosphate(1-) (C9) (CA INDEX NAME) (FC 10 H12 N3 . F6 P SR CA LC STN Files: CA, CAPLUS
             CH 1
             CRN 468081-92-7
CMF C10 H12 N3
 *** FRAGMENT DIAGRAM IS INCOMPLETE ***
            CM 2
            CRN 16919-18-9
CMF F6 P
CCI CCS
                                     1 REFERENCES IN FILE CA (1962 TO DATE)
1 REFERENCES IN FILE CAPLUS (1962 TO DATE)
L4 ANSWER 3 OF 667 REGISTRY COPYRIGHT 2003 ACS
RN 501693-64-7 REGISTRY
CN Phosphate(1-), hexafluoro-, hydrogen, compd. with
1-ethyl-2-methyl-1H-
imidazole (1:1) (9CI) (CA INDEX NAME)
MF C6 H10 N2 . F6 P . H
SR CA
LC STN Files: CA, CAPLUS
             CM 1
             CRN 21202-52-8
CMF C6 H10 N2
             CH 2
             CRN 16940-81-1 (16919-18-9)
CMF F6 P . H
CCI CCS
        ● H<sup>+</sup>
```

1 REFERENCES IN FILE CA (1962 TO DATE)
1 REFERENCES IN FILE CAPLUS (1962 TO DATE)

```
L4 ANSWER 2 OF 667 REGISTRY COPYRIGHT 2003 ACS
RN 501693-89-6 REGISTRY
CN Phosphate(1-), hexafluoro-, hydrogen, compd. with
2-ethyl-1-(phenylmethyl)-
1H-imidszole (1:1) (9C1) (CA INDEX NAME)
MF C12 H14 N2 . F6 P . H
SC CA
LC STN Files: CA, CAPLUS
            CM 1
            CRN 39269-64-2
CMF C12 H14 N2
      CH2-Ph
            CRN 16940-81-1 (16919-18-9)
CMF F6 P . H
CCI CCS
                                   1 REFERENCES IN FILE CA (1962 TO DATE)
1 REFERENCES IN FILE CAPLUS (1962 TO DATE)
        ANSWER 4 OF 667 REGISTRY COPYRIGHT 2003 ACS 501693-52-3 REGISTRY Phosphate(1-), hexafluoro-, hydrogen, compd. with 1,2-dimethyl-lh-imidazole (1:1) (9CI) (CA INDEX NAME) C5 H8 N2 . F6 P . H
          CA
STN Files: CA, CAPLUS
             CM 1
             CRN 16940-81-1 (16919-18-9)
CMF F6 P . H
CCI CCS
             CM 2
            CRN 1739-84-0
CMF C5 H8 N2
```

1 REFERENCES IN FILE CA (1962 TO DATE)
1 REFERENCES IN FILE CAPLUS (1962 TO DATE)

```
L4 ANSWER 5 OF 667 REGISTRY COPYRIGHT 2003 ACS RN 501693-43-2 REGISTRY COPYRIGHT 2003 ACS RN 501693-43-2 REGISTRY COPYRIGHT 2003 ACS RN 501693-43-2 REGISTRY COPYRIGHT 2003 ACS RN 501693-4 REGISTRY COMPACTOR COMPACTOR
```

1 REFERENCES IN FILE CA (1962 TO DATE) 1 REFERENCES IN FILE CAPLUS (1962 TO DATE) => fil caplus COST IN U.S. DOLLARS

FULL ESTIMATED COST

SINCE FILE TOTAL ENTRY SESSION 161.97 162.18

FILE 'CAPLUS' ENTERED AT 14:44:23 ON 14 APR 2003 USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT. PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

COPYRIGHT (C) 2003 AMERICAN CHEMICAL SOCIETY (ACS)

Copyright of the articles to which records in this database refer is held by the publishers listed in the PUBLISHER (PB) field (available for records published or updated in Chemical Abstracts after December 26, 1996), unless otherwise indicated in the original publications. The CA Lexicon is the copyrighted intellectual property of the American Chemical Society and is provided to assist you in searching databases on STN. Any dissemination, distribution, copying, or storing of this information, without the prior written consent of CAS, is strictly prohibited.

FILE COVERS 1907 - 14 Apr 2003 VOL 138 ISS 16 FILE LAST UPDATED: 13 Apr 2003 (20030413/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s py<2001

SYSTEM LIMITS EXCEEDED - SEARCH ENDED

The search profile you entered was too complex or gave too many answers. Simplify or subdivide the query and try again. If you have exceeded the answer limit, enter DELETE HISTORY at an arrow prompt (=>) to remove all previous answers sets and begin at L1. Use the SAVE command to store any important profiles or answer sets before using DELETE HISTORY.

=> s py<2001 and 14 20609553 PY<2001

681 L4

L6 351 PY<2001 AND L4

=> s 16 and phosphate?

522310 PHOSPHATE?

L7 13 L6 AND PHOSPHATE?

=> s 17 and ep1162204/pn

1 EP1162204/PN

L8 0 L7 AND EP1162204/PN

=> s 16 and ep1162204/pn

1 EP1162204/PN

L9 0 L6 AND EP1162204/PN

=> s 14

L10 681 L4

=> s 14 and ep1162204/pn

681 L4

1 EP1162204/PN

L11 1 L4 AND EP1162204/PN

=> fil reg

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY 11.53 SESSION 173.71

FULL ESTIMATED COST

FILE 'REGISTRY' ENTERED AT 14:48:50 ON 14 APR 2003 USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT. PLEASE SEE "HELP USAGETERMS" FOR DETAILS. COPYRIGHT (C) 2003 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 13 APR 2003 HIGHEST RN 502841-39-6 DICTIONARY FILE UPDATES: 13 APR 2003 HIGHEST RN 502841-39-6

TSCA INFORMATION NOW CURRENT THROUGH MAY 20, 2002

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP PROPERTIES for more information. See STNote 27, Searching Properties in the CAS Registry File, for complete details: http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

=>

Uploading 098772592.str

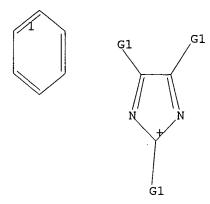
L12 STRUCTURE UPLOADED

=> d

L12 HAS NO ANSWERS

L12

STR



G1 H, X, Ak, [@1]

Structure attributes must be viewed using STN Express query preparation.

0 ANSWERS

=> s l12 ful
FULL SEARCH INITIATED 14:49:06 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - >1,000,000 TO ITERATE
<-----User Break----->

< 12.4% PROCESSED 161315 ITERATIONS

SEARCH ENDED BY USER

SEARCH TIME: 00.00.05

FULL FILE PROJECTIONS: ONLINE **INCOMPLETE**

BATCH **INCOMPLETE**

PROJECTED ITERATIONS: EXCEEDS 1000000

PROJECTED ANSWERS: EXCEEDS 0

L13 0 SEA SSS FUL L12

=> d his

(FILE 'HOME' ENTERED AT 14:41:52 ON 14 APR 2003)

FILE 'REGISTRY' ENTERED AT 14:41:59 ON 14 APR 2003

L1 STRUCTURE UPLOADED

L2 STRUCTURE UPLOADED

L3 10 S L1 AND L2

L4 667 S L1 AND L2 FUL

L5 639 S L4 AND CAPLUS/LC

FILE 'CAPLUS' ENTERED AT 14:44:23 ON 14 APR 2003

L6 351 S PY<2001 AND L4

L7 13 S L6 AND PHOSPHATE?

L8 0 S L7 AND EP1162204/PN

L9 0 S L6 AND EP1162204/PN

L10 681 S L4

L11 1 S L4 AND EP1162204/PN

FILE 'REGISTRY' ENTERED AT 14:48:50 ON 14 APR 2003

L12 STRUCTURE UPLOADED

L13 0 S L12 FUL

=> s 112 and 12 ful

FULL SEARCH INITIATED 14:49:24 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 2292 TO ITERATE

100.0% PROCESSED 2292 ITERATIONS

0 ANSWERS

SEARCH TIME: 00.00.01

L14 0 SEA SSS FUL L12 AND L2

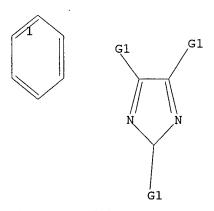
=>

Uploading 098772592.str

L15 STRUCTURE UPLOADED

=> d

L15 HAS NO ANSWERS L15 ST



G1 H, X, Ak, [@1]

Structure attributes must be viewed using STN Express query preparation.

=> s 115 and 12 ful

FULL SEARCH INITIATED 14:50:07 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 2292 TO ITERATE

100.0% PROCESSED 2292 ITERATIONS

0 ANSWERS

SEARCH TIME: 00.00.01

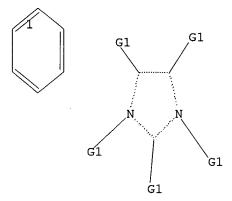
L16 0 SEA SSS FUL L15 AND L2

=>

Uploading 098772592.str

L17 STRUCTURE UPLOADED

=> d L17 HAS NO ANSWERS L17 STR



G1 H, X, Ak, [@1]

Structure attributes must be viewed using STN Express query preparation.

22150 ANSWERS

=> s 117 ful FULL SEARCH INITIATED 14:51:14 FILE 'REGISTRY' FULL SCREEN SEARCH COMPLETED - >1,000,000 TO ITERATE

<---->

< 9.3% PROCESSED 120778 ITERATIONS

SEARCH ENDED BY USER SEARCH TIME: 00.00.03

FULL FILE PROJECTIONS: ONLINE **INCOMPLETE**

BATCH **INCOMPLETE**

PROJECTED ITERATIONS: EXCEEDS 1000000 PROJECTED ANSWERS: EXCEEDS 236894

L18 22150 SEA SSS FUL L17

Uploading 098669261.str

L19 STRUCTURE UPLOADED

=> d L19 HAS NO ANSWERS P

Structure attributes must be viewed using STN Express query preparation.

=> s 119 and 117

SAMPLE SEARCH INITIATED 14:51:56 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 119 TO ITERATE

100.0% PROCESSED 119 ITERATIONS

16 ANSWERS

SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**

BATCH **COMPLETE**

PROJECTED ITERATIONS: 1726 TO 3034
PROJECTED ANSWERS: 80 TO 560

L20 16 SEA SSS SAM L19 AND L17

=> s 119 and 117 ful

FULL SEARCH INITIATED 14:52:05 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 2292 TO ITERATE

100.0% PROCESSED 2292 ITERATIONS

198 ANSWERS

SEARCH TIME: 00.00.01

L21 198 SEA SSS FUL L19 AND L17

=> s 121 and caplus/lc 27419509 CAPLUS/LC

L22 196 L21 AND CAPLUS/LC

=> s 122 not 121

L23 0 L22 NOT L21

=> s 121 not 122

L24 2 L21 NOT L22

=> d 1-2

L24 ANSWER 2 OF 2 REGISTRY COPYRIGHT 2003 ACS
RN 195725-95-2 REGISTRY
CN Copper(1+), [2,6-bis(1,3-dimethyl-4,5-diphenyl-2-imidazolidinyl-kappa,Nl)pyridine-kappa,Nlchloro-, [5F-4-3-[15[1.alpha.,2.alpha.(18*,25*,45*,55*),4.alpha.,5.beta.}]-,
hexafluorophosphate(1-) (9C1) (CA INDEX NAME)
C39 H41 C1 Cu N5 . F6 P
C COM
CR 1
CRN 195725-94-1
CMF C39 H41 C1 Cu N5
CCI CCS

Me
Ph
N
Ph

CM 2

CRN 16919-18-9

CMF F6 P

CCI CCS

=> fil caplus COST IN U.S. DOLLARS

FULL ESTIMATED COST

SINCE FILE TOTAL ENTRY SESSION 749.53 923.24

FILE 'CAPLUS' ENTERED AT 14:53:23 ON 14 APR 2003 USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT. PLEASE SEE "HELP USAGETERMS" FOR DETAILS. COPYRIGHT (C) 2003 AMERICAN CHEMICAL SOCIETY (ACS)

Copyright of the articles to which records in this database refer is held by the publishers listed in the PUBLISHER (PB) field (available for records published or updated in Chemical Abstracts after December 26, 1996), unless otherwise indicated in the original publications. The CA Lexicon is the copyrighted intellectual property of the American Chemical Society and is provided to assist you in searching databases on STN. Any dissemination, distribution, copying, or storing of this information, without the prior written consent of CAS, is strictly prohibited.

FILE COVERS 1907 - 14 Apr 2003 VOL 138 ISS 16 FILE LAST UPDATED: 13 Apr 2003 (20030413/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d his

L17

(FILE 'HOME' ENTERED AT 14:41:52 ON 14 APR 2003)

FILE 'REGISTRY' ENTERED AT 14:41:59 ON 14 APR 2003 L1STRUCTURE UPLOADED L2 STRUCTURE UPLOADED L3 10 S L1 AND L2 L4667 S L1 AND L2 FUL L5 639 S L4 AND CAPLUS/LC FILE 'CAPLUS' ENTERED AT 14:44:23 ON 14 APR 2003 351 S PY<2001 AND L4 L6 13 S L6 AND PHOSPHATE? L7 0 S L7 AND EP1162204/PN rsL9 0 S L6 AND EP1162204/PN L10 681 S L4 L11 1 S L4 AND EP1162204/PN FILE 'REGISTRY' ENTERED AT 14:48:50 ON 14 APR 2003 L12 STRUCTURE UPLOADED L13 0 S L12 FUL L140 S L12 AND L2 FUL L15 STRUCTURE UPLOADED L16 0 S L15 AND L2 FUL

STRUCTURE UPLOADED

L18	22150	S	L17	FUL	
L19		S	rruc'	TURE	UPLOADED
L20	16	S	L19	AND	L17
L21	198	S	L19	AND	L17 FUL
L22	196	S	L21	AND	CAPLUS/LC
L23	0	S	L22	NOT	L21
L24	2	S	L21	TON	L22

FILE 'CAPLUS' ENTERED AT 14:53:23 ON 14 APR 2003

=> s 121

L25 444 L21

=> s 125 and ep1162204/pn 1 EP1162204/PN

L26 1 L25 AND EP1162204/PN

=> s py<2002 and 125 21530317 PY<2002

L27 253 PY<2002 AND L25

=> s 127 and ep1162204/pn 1 EP1162204/PN

L28 1 L27 AND EP1162204/PN

=> s 127 not ep1162204/pn 1 EP1162204/PN

L29 252 L27 NOT EP1162204/PN

=> fil reg

COST IN U.S. DOLLARS SINCE FILE TOTAL ENTRY SESSION 9.39 932.63

FILE 'REGISTRY' ENTERED AT 14:56:45 ON 14 APR 2003 USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT. PLEASE SEE "HELP USAGETERMS" FOR DETAILS. COPYRIGHT (C) 2003 American Chemical Society (ACS)

Property values tagged with IC are from the ${\tt ZIC/VINITI}$ data file provided by InfoChem.

STRUCTURE FILE UPDATES: 13 APR 2003 HIGHEST RN 502841-39-6 DICTIONARY FILE UPDATES: 13 APR 2003 HIGHEST RN 502841-39-6

TSCA INFORMATION NOW CURRENT THROUGH MAY 20, 2002

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP PROPERTIES for more information. See STNote 27, Searching Properties

in the CAS Registry File, for complete details: http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

=>

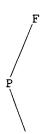
Uploading 098669261.str

L30 STRUCTURE UPLOADED

=> d

L30 HAS NO ANSWERS

L30 STR



Structure attributes must be viewed using STN Express query preparation.

=> fil caplus
COST IN U.S. DOLLARS

SINCE FILE TOTAL ENTRY SESSION 0.40 933.03

FULL ESTIMATED COST

FILE 'CAPLUS' ENTERED AT 14:56:57 ON 14 APR 2003 USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT. PLEASE SEE "HELP USAGETERMS" FOR DETAILS. COPYRIGHT (C) 2003 AMERICAN CHEMICAL SOCIETY (ACS)

Copyright of the articles to which records in this database refer is held by the publishers listed in the PUBLISHER (PB) field (available for records published or updated in Chemical Abstracts after December 26, 1996), unless otherwise indicated in the original publications. The CA Lexicon is the copyrighted intellectual property of the American Chemical Society and is provided to assist you in searching databases on STN. Any dissemination, distribution, copying, or storing of this information, without the prior written consent of CAS, is strictly prohibited.

FILE COVERS 1907 - 14 Apr 2003 VOL 138 ISS 16 FILE LAST UPDATED: 13 Apr 2003 (20030413/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

(FILE 'HOME' ENTERED AT 14:41:52 ON 14 APR 2003)

L1 L2 L3 L4 L5	FILE	'REGISTRY' ENTERED AT 14:41:59 ON 14 APR 2003 STRUCTURE UPLOADED STRUCTURE UPLOADED 10 S L1 AND L2 667 S L1 AND L2 FUL 639 S L4 AND CAPLUS/LC
	FTTF	'CAPLUS' ENTERED AT 14:44:23 ON 14 APR 2003
L6	LIDE	351 S PY<2001 AND L4
L7 ·		13 S L6 AND PHOSPHATE?
L8		0 S L7 AND EP1162204/PN
L9		0 S L6 AND EP1162204/PN
L10		681 S L4
L11		1 S L4 AND EP1162204/PN
	FILE	'REGISTRY' ENTERED AT 14:48:50 ON 14 APR 2003
L12		STRUCTURE UPLOADED
L13		0 S L12 FUL
L14		0 S L12 AND L2 FUL
L15		STRUCTURE UPLOADED
L16		0 S L15 AND L2 FUL
L17		STRUCTURE UPLOADED
L18		22150 S L17 FUL
L19		STRUCTURE UPLOADED
L20		16 S L19 AND L17
L21		198 S L19 AND L17 FUL
L22		196 S L21 AND CAPLUS/LC
L23		0 S L22 NOT L21
L24		2 S L21 NOT L22
	FILE	'CAPLUS' ENTERED AT 14:53:23 ON 14 APR 2003
L25		444 S L21
L26		1 S L25 AND EP1162204/PN
L27		253 S PY<2002 AND L25
L28		1 S L27 AND EP1162204/PN
L29		252 S L27 NOT EP1162204/PN
	FILE	'REGISTRY' ENTERED AT 14:56:45 ON 14 APR 2003
L30		STRUCTURE UPLOADED

FILE 'CAPLUS' ENTERED AT 14:56:57 ON 14 APR 2003

=> s 130 and 129

REG1stRY INITIATED

Substance data SEARCH and crossover from CAS REGISTRY in progress... Use DISPLAY HITSTR (or FHITSTR) to directly view retrieved structures.

SAMPLE SEARCH INITIATED 14:57:08 FILE 'REGISTRY' SAMPLE SCREEN SEARCH COMPLETED - 955 TO ITERATE

955 ITERATIONS 100.0% PROCESSED

INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)

SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**

BATCH **COMPLETE**

PROJECTED ITERATIONS: 17247 TO 20953

PROJECTED ANSWERS: 1812 TO 3148

L31 50 SEA SSS SAM L30

L32 49 L31

L33 0 L32 AND L29

=> s 130 ful and 129

REG1stRY INITIATED

Substance data SEARCH and crossover from CAS REGISTRY in progress... Use DISPLAY HITSTR (or FHITSTR) to directly view retrieved structures.

SAMPLE SEARCH INITIATED 14:57:17 FILE 'REGISTRY' SAMPLE SCREEN SEARCH COMPLETED - 955 TO ITERATE

100.0% PROCESSED 955 ITERATIONS

INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)

SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**

BATCH **COMPLETE**

17247 TO 20953 1812 TO 3148 PROJECTED ITERATIONS:

PROJECTED ANSWERS:

L34 50 SEA SSS SAM L30

L35 49 L34

MISSING OPERATOR L35 FUL

The search profile that was entered contains terms or nested terms that are not separated by a logical operator. 50 ANSWERS

50 ANSWERS

=> fil reg
COST IN U.S. DOLLARS

SINCE FILE TOTAL ENTRY SESSION 0.42 935.09

FULL ESTIMATED COST

FILE 'REGISTRY' ENTERED AT 14:57:29 ON 14 APR 2003 USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT. PLEASE SEE "HELP USAGETERMS" FOR DETAILS. COPYRIGHT (C) 2003 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 13 APR 2003 HIGHEST RN 502841-39-6 DICTIONARY FILE UPDATES: 13 APR 2003 HIGHEST RN 502841-39-6

TSCA INFORMATION NOW CURRENT THROUGH MAY 20, 2002

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP PROPERTIES for more information. See STNote 27, Searching Properties in the CAS Registry File, for complete details: http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

=> d his

L12

L13

L14

L15

L16

L17

(FILE 'HOME' ENTERED AT 14:41:52 ON 14 APR 2003)

FILE 'REGISTRY' ENTERED AT 14:41:59 ON 14 APR 2003 STRUCTURE UPLOADED L1L2 STRUCTURE UPLOADED L3 10 S L1 AND L2 667 S L1 AND L2 FUL L4639 S L4 AND CAPLUS/LC L5 FILE 'CAPLUS' ENTERED AT 14:44:23 ON 14 APR 2003 L6 351 S PY<2001 AND L4 L7 13 S L6 AND PHOSPHATE? L80 S L7 AND EP1162204/PN 0 S L6 AND EP1162204/PN L9 L10 681 S L4 L11 1 S L4 AND EP1162204/PN

FILE 'REGISTRY' ENTERED AT 14:48:50 ON 14 APR 2003
STRUCTURE UPLOADED

0 S L12 FUL
0 S L12 AND L2 FUL
STRUCTURE UPLOADED
0 S L15 AND L2 FUL

STRUCTURE UPLOADED

L19 L20 L21	22150 S L17 FUL STRUCTURE UPLOADED 16 S L19 AND L17 198 S L19 AND L17 FUL 196 S L21 AND CAPLUS/LC 0 S L22 NOT L21 2 S L21 NOT L22						
L25 L26 L27	E 'CAPLUS' ENTERED AT 14:53:23 ON 14 APF 444 S L21 1 S L25 AND EP1162204/PN 253 S PY<2002 AND L25 1 S L27 AND EP1162204/PN 252 S L27 NOT EP1162204/PN	. 2003					
FII L30	E 'REGISTRY' ENTERED AT 14:56:45 ON 14 A STRUCTURE UPLOADED	PR 2003					
FII	E 'CAPLUS' ENTERED AT 14:56:57 ON 14 APF S L30 AND L29	2003					
FII L31	E 'REGISTRY' ENTERED AT 14:57:08 ON 14 A 50 S L30	APR 2003					
	E 'CAPLUS' ENTERED AT 14:57:09 ON 14 APF 49 S L31 0 S L32 AND L29 S L30 FUL AND L29	2003					
	E 'REGISTRY' ENTERED AT 14:57:17 ON 14 A 50 S L30	APR 2003					
FII L35	E 'CAPLUS' ENTERED AT 14:57:18 ON 14 APF 49 S L34	2003					
FII	E 'REGISTRY' ENTERED AT 14:57:29 ON 14 A	APR 2003					
=> s 130 and 117 ful FULL SEARCH INITIATED 14:57:57 FILE 'REGISTRY' FULL SCREEN SEARCH COMPLETED - 104 TO ITERATE							
100.0% PROCESSED 104 ITERATIONS 3 ANSWERS SEARCH TIME: 00.00.01							
L36	3 SEA SSS FUL L30 AND L17						
=> fil c	caplus U.S. DOLLARS	SINCE FILE	TOTAL				
FULL EST	'IMATED COST	SINCE FILE ENTRY 148.15	1083.24				
FILE 'CAPLUS' ENTERED AT 14:58:07 ON 14 APR 2003							

FILE 'CAPLUS' ENTERED AT 14:58:07 ON 14 APR 2003 USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT. PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

COPYRIGHT (C) 2003 AMERICAN CHEMICAL SOCIETY (ACS)

Copyright of the articles to which records in this database refer is held by the publishers listed in the PUBLISHER (PB) field (available for records published or updated in Chemical Abstracts after December 26, 1996), unless otherwise indicated in the original publications. The CA Lexicon is the copyrighted intellectual property of the American Chemical Society and is provided to assist you in searching databases on STN. Any dissemination, distribution, copying, or storing of this information, without the prior written consent of CAS, is strictly prohibited.

FILE COVERS 1907 - 14 Apr 2003 VOL 138 ISS 16 FILE LAST UPDATED: 13 Apr 2003 (20030413/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s 136 L37 1 L36

=> d ibib abs hitstr

```
COPYRIGHT 2003 ACS
2001:900135 CAPLUS
136:20157
Ionic liquids
Schmidt, Michael, Heider, Udo; Geis:

Ignatyev, Nikolai, Hilarius, Volker
Merck Patent G.m.b.H., Germany
Eur. Pat. Appl., 19 pp.
CODEN: EPXEUV
Patent
LANGUAGE:
FAMILY ACC. NUM. COUNT:
PATENT NO. KIND DATE
FATENT NO. KIND DATE
EP 116:2204 Al
R: AT, BE, C.
PT,

DE 100
                                                                                                                                                                                                           Ionic liquids
Schmidt, Michael: Heider, Udo: Geissler,
                                                                                                           PATENT NO. KIND DATE APPLICATION NO. DATE

EP 1162204 A1 20011212 EP 2001-111953 20010521
R: AT, BE, CH, DE, DX, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,
                                                                                 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,

IE, SI, LT, LV, FI, RO

DE 10027995 Al 20011213 DE 2000-10027995 20000609
CN 1327986 A 20011226 CN 2001-122805 20010608
JP 2002025610 A2 20020125 JP 2001-173307 20010608
BR 2001002318 A 20020213 BR 2001-2318 20010608
US 2002015884 Al 20020217 US 2001-877259 20010611
PRIORITY AFFIN. INFO:

DE 2000-10027995 A 20000609
AB The prepn. of title compds. is described. Thus, reaction of 1-ethyl-3-methylimidazolium chloride with Li[PF3(C2F5)3] gave title compd. 1-ethyl-3-methylimidazolium theride at the compd. 1-ethyl-3-methylimidazolium theride state (Synthetic preparation) (prepn. as ionic liqs.)

RI 377739-43-0 CAPLUS
CN 1H-Imidazolium, 1-ethyl-3-methyl-, (OC-6-21)-trifluorotris(pentafluoroethy)
l)phosphate(1-) (9CI) (CA INDEX NAME)
                                                                                                            CM 1
                                                                                                           CRN 123199-69-9
CMF C6 F18 P
CCI CCS
```

L37 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2003 ACS CRN 123199-69-9 CHF C6 F18 P CCI CCS (Continued)

RN 377739-47-4 CAPLUS CN 1H-Imidazolium, 1-ethyl-3-methyl-, (OC-6-21)-trifluorotris(nonafluorobutyl)phosphate(1-) (9C1) (CA INDEX NAME)

CM 1

CRN 377739-46-3 CMF C12 F30 P CCI CCS

CH 2

CRN 65039-03-4 CMF C6 H11 N2

L37 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2003 ACS (Continued)

CM. 2

CRN 65039-03-4 CMF C6 H11 N2

*** FRAGMENT DIAGRAM IS INCOMPLETE ***
RN 377739-45-2 CAPLUS
CN IH-Indiazolium, 1,2-dimethyl-3-propyl-, (OC-6-21)trifluorotris(pentafluoroethyl)phosphate(1-) (9CI) (CA INDEX NAME)

CRN 157310-70-8 CMF C8 H15 N2

*** FRAGMENT DIAGRAM IS INCOMPLETE ***

CM 2

L37 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2003 ACS (Continued)



*** FRAGMENT DIAGRAM IS INCOMPLETE ***
REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE

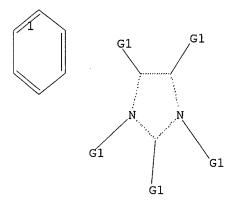
FORMAT

=> d 130 L30 HAS NO ANSWERS L30 STF



Structure attributes must be viewed using STN Express query preparation.

=> d 117 L17 HAS NO ANSWERS L17 STR



G1 H, X, Ak, [@1]

Structure attributes must be viewed using STN Express query preparation.

=> fil req		
COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	5.37	1088.61
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE	TOTAL
	ENTRY	SESSION
CA SUBSCRIBER PRICE	-0.65	-0.65

FILE 'REGISTRY' ENTERED AT 14:59:09 ON 14 APR 2003 USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.

PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2003 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 13 APR 2003 HIGHEST RN 502841-39-6 DICTIONARY FILE UPDATES: 13 APR 2003 HIGHEST RN 502841-39-6

TSCA INFORMATION NOW CURRENT THROUGH MAY 20, 2002

Please note that search-term pricing does apply when conducting ${\tt SmartSELECT}$ searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP PROPERTIES for more information. See STNote 27, Searching Properties in the CAS Registry File, for complete details: http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

=> s 136 and caplus/lc 27419509 CAPLUS/LC L38 3 L36 AND CAPLUS/LC

=>

. ---Logging off of STN---

=>

Executing the logoff script...

=> LOG Y

COST IN U.S. DOLLARS	SINCE FILE	\mathtt{TOTAL}
	ENTRY	SESSION
FULL ESTIMATED COST	4.62	1093.23
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE	TOTAL
	ENTRY	SESSION
CA SUBSCRIBER PRICE	0.00	-0.65

STN INTERNATIONAL LOGOFF AT 14:59:33 ON 14 APR 2003

09/877,259 Page 1

ANSWER 1 OF 1 CAPLUS COPYRIGHT 2003 ACS ACCESSION NUMBER: 2001:900135 CAPLUS

DOCUMENT NUMBER:

136:20157

TITLE:

Ionic liquids

INVENTOR(S):

Schmidt, Michael; Heider, Udo; Geissler, Winfried;

Ignatyev, Nikolai; Hilarius, Volker

PATENT ASSIGNEE(S):

Merck Patent G.m.b.H., Germany

SOURCE:

Eur. Pat. Appl., 19 pp.

CODEN: EPXXDW

DOCUMENT TYPE:

Patent

LANGUAGE:

German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

	PATENT	NO.		KIND	DATE		AP	PLICATI	ON NO	. DATE			
									_	- -			
	EP 116	2204		A1	200112	212	EP	2001-1	.11953	2001	0521		
	R:	AΤ,	ΒE,	CH, D	E, DK, I	ES, FR	GB,	GR, IT,	LI,]	LU, NL,	SE,	MC,	PT,
		ΙE,	SI,	LT, L	V, FI, I	२०							
	DE 100	27995		A 1	200112	213	DE	2000-1	00279	95 2000	0609	<	
	CN 132	7986		Α	200112	226	CN	2001-1	22805	2001	0608		
	JP 200	20256	10	A2	200203	L25	JP	2001-1	73307	2001	0608		
	BR 200	10023	18	Α	200202	213	BR	2001-2	318	2001	0608		
	US 200	20158	84	A1	200202	207	US	2001-8	377259	2001	0611		
PRIO	RITY AP	PLN.	INFO	. :			DE 20	00-1002	7995 7	A 2000	0609		
AB	The pr	epn.	of t	itle c	ompds. :	is desc	cribed	. Thus	, read	ction o	f		
	1-ethy	1-3-m	ethy:	limida	zolium d	chloric	de wit	h Li[PF	3 (C2F	5)3] qa	ve ti	tle	
	compd.	, 1-e	thyl	-3-met	hylimida	zoliur	n tris	(pentaf	luoro	ethyl)t	riflu	orop	hospha
	te.		-		_			-				•	•

REFERENCE COUNT:

2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT L11 ANSWER 29 OF 82 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER:

1998:677114 CAPLUS

DOCUMENT NUMBER:

130:29457

TITLE:

Thermal properties of imidazolium ionic liquid

electrolytes

AUTHOR (S):

McEwen, Alan B.; Ngo, Helen L.; LeCompte, Karen

CORPORATE SOURCE:

Covalent Associates, Inc., Woburn, MA, USA

SOURCE:

Proceedings of the Conference of the North American Thermal Analysis Society, 26th, Cleveland, Sept.

13-15, 1998 (1998), 21-26. Editor(s):

Williams, Kathryn R. Omnipress: Madison, Wis.

CODEN: 66VEAV

DOCUMENT TYPE:

Conference English

LANGUAGE:

The authors investigated the thermal properties of several imidazolium salts using DSC and TGA/SDTA data. Many of these salts are ambient and sub-ambient temp. ionic liqs., which form glasses at low temps. and have minimal vapor pressure up to their thermal decompn. temp. Thermal decompn. is endothermic with the inorg. anions and exothermic with the org. anions investigated. Halide anions drastically reduce the thermal stability of these salts. We have obsd. that aluminum TGA pans catalyze the decompn. of the salts with the inorg. fluoride anions. The imidazolium cation is thermally more stable than the tetraalkyl ammonium cations.

155371-19-0 157310-73-1 216300-12-8 IT

216300-13-9 216300-14-0

RL: PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)

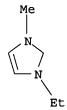
(thermal properties and thermal decompn. of)

CAPLUS RN155371-19-0

1H-Imidazolium, 1-ethyl-3-methyl-, hexafluorophosphate(1-) (9CI) CN INDEX NAME)

CM 1

CRN 65039-03-4 CMF C6 H11 N2



*** FRAGMENT DIAGRAM IS INCOMPLETE ***

CM 2

CRN 16919-18-9

CMF F6 P

CCI CCS

RN 157310-73-1 CAPLUS

CN 1H-Imidazolium, 1,2-dimethyl-3-propyl-, hexafluorophosphate(1-) (9CI) (CA INDEX NAME)

CM 1

CRN 157310-70-8 CMF C8 H15 N2

*** FRAGMENT DIAGRAM IS INCOMPLETE ***

CM 2

CRN 16919-18-9 CMF F6 P

CCI CCS

RN 216300-12-8 CAPLUS

CN 1H-Imidazolium, 1-methyl-3-propyl-, hexafluorophosphate(1-) (9CI) (CA INDEX NAME)

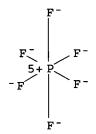
CM 1

CRN 80432-06-0 CMF C7 H13 N2

*** FRAGMENT DIAGRAM IS INCOMPLETE ***

CM 2

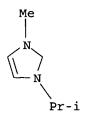
CRN 16919-18-9 CMF F6 P CCI CCS



RN 216300-13-9 CAPLUS
CN 1H-Imidazolium, 1-methyl-3-(1-methylethyl)-, hexafluorophosphate(1-) (9CI)
(CA INDEX NAME)

CM 1

CRN 94530-91-3 CMF C7 H13 N2



*** FRAGMENT DIAGRAM IS INCOMPLETE ***

CM 2

CRN 16919-18-9

CMF F6 P

RN 216300-14-0 CAPLUS
CN 1H-Imidazolium, 1,2,3,4,5-pentamethyl-, hexafluorophosphate(1-) (9CI) (CA INDEX NAME)

CM 1

CRN 216299-74-0 CMF C8 H15 N2